



THE GREAT IMITATOR MEETS PRURITIC PAPULAR ERUPTION: A CASE OF SECONDARY SYPHILIS AND HIV CO-INFECTION

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ABSTRACT

Secondary syphilis, notoriously known as "the great imitator," can present with highly atypical cutaneous manifestations, particularly in immunocompromised individuals. In patients with human immunodeficiency virus (HIV) co-infection, distinguishing secondary syphilis from HIV-associated dermatoses, such as pruritic papular eruption (PPE), poses a significant diagnostic challenge. This report aims to describe an atypical case of secondary syphilis mimicking PPE in a newly diagnosed HIV patient, to highlight the diagnostic complexities and the potential risks of inappropriate empiric systemic corticosteroid therapy. A 26-year-old male presented with a one-month history of a generalized, intensely pruritic, and crusted papular rash. His condition rapidly disseminated and worsened following empiric treatment with systemic corticosteroids by a general practitioner. Dermatological examination revealed generalized, well-demarcated erythematous papules with overlying crusts and fine scales, closely mimicking PPE. The patient reported a history of high-risk sexual behavior. Serological testing confirmed active secondary syphilis (VDRL 1:64, TPHA reactive) and revealed a previously undiagnosed HIV infection. The patient was successfully treated with a single dose of intramuscular benzathine penicillin G (2.4 million IU) and topical therapy comprising desoximetasone 0.25% and gentamicin 0.1% creams, alongside an immediate referral for antiretroviral therapy (ART). This case highlights the clinical overlap between atypical secondary syphilis and PPE in HIV-positive patients. It strongly underscores the critical need for comprehensive sexually transmitted infection (STI) screening prior to initiating systemic immunosuppressive therapy for generalized eruptions, especially in high-risk populations.

Keywords: co-infection; great imitator; HIV; pruritic papular eruption; secondary syphilis; systemic corticosteroids

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INTRODUCTION

Syphilis, caused by the spirochete *Treponema pallidum*, is a sexually transmitted infection globally recognized as "the great imitator" due to its wide range of clinical manifestations. Secondary syphilis classically manifests as a generalized, non-pruritic maculopapular rash that frequently involves the trunk, extremities, palms, and soles. However, in the context of human immunodeficiency virus (HIV) co-infection, the clinical course and dermatological manifestations of syphilis are often profoundly altered (Alakrash et al., 2026). The synergistic interaction between HIV and *T. pallidum* can result in atypical, aggressive, and rapidly disseminating lesions, which frequently serve as the initial clinical presentation leading to the diagnosis of an underlying HIV infection (Gao et al., 2022a).

One of the significant diagnostic challenges in HIV-syphilis co-infection is the overlapping of cutaneous symptoms with HIV-specific dermatoses. Pruritic papular eruption (PPE) is a common, distinct dermatological hallmark of HIV, characterized by chronic pruritus and symmetric papular eruptions primarily distributed across the trunk and extremities (Flores-Leonel et al., 2026a; Rahmatika et al., 2023a). When secondary syphilis occurs in an undiagnosed immunocompromised patient, the resulting lesions may become intensely pruritic and heavily crusted, seamlessly

mimicking the clinical picture of PPE or other atypical dermatoses (Zhang et al., 2026). This morphological overlap frequently masks the underlying treponemal infection and complicates the initial diagnostic approach.

Such diagnostic uncertainty can lead to the inappropriate administration of symptomatic treatments. The empiric use of systemic corticosteroids for presumed allergic dermatoses in an undiagnosed immunocompromised patient can be highly detrimental, as it further suppresses cell-mediated immunity and exacerbates the dissemination of the underlying infection. Here, we report a compelling case of secondary syphilis presenting with features mimicking PPE in a newly diagnosed HIV-positive patient, whose clinical condition significantly deteriorated following empiric systemic corticosteroid therapy. This report aims to emphasize the indispensable role of comprehensive STI screening in high-risk individuals presenting with generalized pruritic eruptions before initiating immunosuppressive therapies.

METHOD

Study Design and Participant

This study is a retrospective clinical case report. The participant is a single 26-year-old male patient who presented to the Dermatology and Venereology Department at Mangusada Hospital, Badung, Bali, Indonesia, in June 2026. Written informed consent was obtained from the patient for the publication of his clinical details and any accompanying images for educational and research purposes.

Data Collection

Clinical data were collected retrospectively through a comprehensive review of the patient's medical records. The collected data encompassed the patient's detailed medical and sexual history (anamnesis), physical and dermatological examination findings, and the results of laboratory investigations. Specific laboratory data extracted included the Venereal Disease Research Laboratory (VDRL) test, *Treponema pallidum* hemagglutination assay (TPHA), and rapid HIV testing results. Data regarding previous treatments, specifically the empiric use of systemic corticosteroids, were also systematically recorded.

Clinical Review and Analysis

The clinical review and analysis were conducted by systematically correlating the patient's atypical dermatological manifestations with the serological findings to establish a definitive diagnosis. The clinical trajectory, particularly the exacerbation of lesions following systemic corticosteroid administration, was critically analyzed. Furthermore, a focused literature review was performed to compare this patient's clinical presentation—specifically the overlapping features of secondary syphilis and Pruritic Papular Eruption (PPE)—with existing published cases. The treatment outcome was evaluated based on the clinical resolution of the lesions and serological follow-up.

RESULT

Case Illustration

A 26-year-old unmarried male presented to the Dermatology and Venereology Department at Mangusada Hospital, Badung, Bali, on May 26, 2026, with a chief complaint of an erythematous rash on his face, chest, abdomen, back, and upper and lower extremities that had been present for one month. The lesions were associated with burning sensation and occasional pruritus. One week after the onset of symptoms, the patient consulted a general practitioner and was prescribed an oral antihistamine (chlorpheniramine) and methylprednisolone for one week, which yielded no significant clinical improvement. Over the following weeks, the erythematous rash progressed rapidly, developing crusts and spreading widely. Initially presenting as a few lesions on the face and trunk, it rapidly disseminated across nearly the entire body. The patient reported intermittent fever during the disease course but denied any weight loss, oral or genital ulcers, alopecia, or neurological

deficits. There was no history of traditional medicine use or intravenous drug abuse. He had no known history of chronic illness or prior immunodeficiency. His sexual history revealed unprotected intercourse with multiple partners. He identified as a man who has sex with men (MSM) and reported recent sexual encounters with three different male friends, with his last sexual contact occurring four months prior to symptom onset. Physical examination revealed a conscious, alert, and



cooperative patient with normal vital signs and body mass index (BMI). Dermatological examination showed multiple erythematous papules with generalized distribution, accompanied by crusts and fine scales. No lymphadenopathy was observed, and no abnormalities were identified on venereological examination. Serological testing on June 8, 2026 for syphilis demonstrated a reactive Venereal Disease Research Laboratory (VDRL) test with a titer of 1:64 and a reactive *Treponema pallidum* hemagglutination assay (TPHA). Notably, rapid HIV testing was also reactive. Based on the history, physical examination, and laboratory findings, the patient was diagnosed with secondary syphilis and pruritic papular eruption (PPE).



The patient was treated with a single intramuscular injection of benzathine penicillin G 2.4 million IU following a negative penicillin skin test along with topical desoximetasone 0.25% cream and gentamicin 0.1% cream applied to the skin lesions. At one-week follow up, marked clinical improvement was observed. The erythematous papules and crusts had significantly regressed. He was subsequently referred to the Voluntary Counseling and Testing (VCT) clinic for HIV management. The patient was advised to abstain from sexual activity until complete lesion resolution and to notify his recent sexual partners for evaluation and treatment. Continued serological follow-up was scheduled at 3, 6, 9, 12, and 18 months to monitor the treatment response.

DISCUSSION

Syphilis, widely recognized as "the great imitator," presents a significant global health challenge, particularly when co-occurring with Human Immunodeficiency Virus (HIV) infection. A substantial burden of HIV and syphilis co-infection has been documented globally, with an exceptionally high prevalence and incidence among key populations, particularly men who have sex with men (MSM) (Bezerra et al., 2022; Varshney et al., 2022). Recent epidemiological data from various regions, including Asia and the Americas, underscore the high rates of transmission, reinfection, and treatment complexities within these sexual networks (Mahmud et al., 2023; Tumulán-Gil et al., 2023; Vergara-Ortega et al., 2023). Consistent with previous reports, secondary syphilis often serves as the initial clinical presentation that eventually leads to the opportunistic diagnosis of an underlying HIV infection (Alakrash et al., 2026.; Flores-Leonel et al., 2026). In our patient, the generalized dermatological manifestation was the primary gateway to uncovering his profound immunocompromised state.

The cutaneous manifestations of secondary syphilis are notoriously variable, ranging from classic generalized non-pruritic maculopapular rashes to atypical presentations such as palmoplantar hyperpigmented maculopapules, or targetoid and erythema multiforme-like lesions (Almurakshi et al., 2024; Bhandari & Khullar, 2022; Rahmatika et al., 2023). However, the synergistic interaction with HIV often causes the clinical picture to deviate significantly. Understanding the fundamental biology of HIV (van Heuvel et al., 2022) helps explain this phenomenon: HIV-1 infection alters skin immune function and drives chronic immune activation, leading to a unique CD8⁺ T-cell activation phenotype and cellular exhaustion (Jones et al., 2025; Tang et al., 2024). This impaired host immunity prevents a typical response to *Treponema pallidum*. Consequently, our patient presented with generalized, severely pruritic, and crusted lesions seamlessly mimicking Pruritic Papular Eruption (PPE)—a distinct cutaneous manifestation of HIV characterized by discrete, severely pruritic, erythematous papules (Ekpe, 2019 ; Gao et al., 2022). This morphological overlap frequently masks the underlying treponemal infection and complicates the initial diagnostic approach.

A critical aspect of this case was the patient's initial empiric treatment with systemic corticosteroids (methylprednisolone) by a general practitioner. The administration of systemic immunosuppressants in a patient with an undiagnosed HIV infection can be highly detrimental. Corticosteroids further suppress the already compromised cell-mediated immunity, which likely facilitated the rapid dissemination and worsening of the treponemal infection in this patient, leading to the sudden surge of crusted papules (Khumalo et al., 2024). This phenomenon underscores the danger of providing symptomatic immunosuppressive therapy for generalized rashes without first ruling out infectious etiologies. (Anand Raman et al., 2024)

The diagnosis of atypical syphilis relies heavily on clinical vigilance and accurate laboratory testing. Current Centers for Disease Control and Prevention (CDC) 2024 laboratory recommendations and established diagnostic protocols emphasize the use of both non-treponemal (lipoidal antigen) and treponemal assays (Nanoudis et al., 2024; Satyaputra et al., 2021). The intersection of HIV and syphilis can sometimes complicate serological interpretation, occasionally necessitating advanced molecular diagnostic tools when standard serology is ambiguous (Ren et al., 2021; Setyarini et al., 2023). Furthermore, co-infected patients may experience complex serological responses, such as serological rebound, requiring diligent clinical follow-up. In our case, the VDRL and TPHA results accurately identified active secondary syphilis despite the confounding clinical morphology.

Managing HIV-syphilis co-infection requires strict adherence to updated sexually transmitted infection (STI) treatment guidelines (Workowski et al., 2021). The patient was appropriately treated with systemic benzathine penicillin G alongside topical adjunctive therapies, followed by an

immediate referral for antiretroviral therapy (ART). Clinicians must remain vigilant, as initiating ART in severely immunosuppressed individuals can occasionally precipitate immune reconstitution inflammatory syndrome (IRIS), which may manifest as a paradoxical worsening of syphilis symptoms (Alfieri et al., 2023; Pipitò et al., 2023). Ultimately, this case highlights that a comprehensive screening for STIs, including HIV, is mandatory before initiating empiric systemic corticosteroids for presumed allergic dermatoses in high-risk populations.

CONCLUSION

This case underscores the necessity of a high index of suspicion for atypical secondary syphilis in patients presenting with generalized, pruritic, and crusted papular eruptions, particularly among men who have sex with men (MSM). A comprehensive screening for sexually transmitted infections (STIs), including HIV, is mandatory before initiating empiric systemic corticosteroids for presumed allergic dermatoses.

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